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ABSTRACT

Early bilingualism of many young children is characterized by an apparent mixture of languages. Because of the variety of patterns they follow and the lack of empirical data available it is difficult to make generalizations. However, the speech of individual children can be examined for insights into early bilingualism. To this purpose, a study was undertaken of a child who seemed to have no constraints on language mixing and/or code switching. The child was videotaped at the age of 2 years 11 months in a two hour spontaneous play session at a bilingual nursery school. The tapes were transcribed and the child's utterances were counted to determine the number of utterances in each language and in each language situation. The transcribed data were analyzed according to mean length of utterance, conversational analysis, and syntax. Analysis of all the data indicated that the child's speech was neither an indiscriminate nor a random mixture. His English and Spanish were found to be consistent with the language of monolingual English- and Spanish-speaking children at the same level of development. The interpretation of the results is that the child uses a mixed code because of his language environment; it is a question of rules for language use rather than of language development. (AMH)

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But Is He Bi-Lingual? A Three Year Old's Mixed Speech

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A common phenomenon in bilingual communities is the very young child who speaks two languages. Children in multilingual communities may speak three or even four languages with facility. Many very young bilinguals amaze us with their ability to separate and to use two languages appropriately. Ronjat[1], in his classic study of his own French/German bilingual child, tells us that before the age of two the boy was acting as translator between his monolingual German nurse and the monolingual French servants in the household. In the schools of Southern California it is not uncommon for the pre-school child to act as interpreter at parent-teacher conferences dealing with problems of older siblings. In my own research, I enjoyed watching one young boy, barely three years old, playing in his bilingual pre-school. He had each adult and each child pegged as to language, and he switched languages in his conversation and his play with unerring accuracy and appropriateness.

On the other hand, the literature of child bilingualism is filled with reports of children who seem confused by the two languages. Leopold[2] talks about the "hybrid" language spoken by his daughter, Hildegarde. Others[3] have reported a

great deal of language mixing by young bilinguals. Many children have been described as using two languages in a random and indiscriminate fashion.

It is not surprising that children should follow many and varied paths on the road to becoming bilingual. There seems to be a great deal of variation in the process of language acquisition even among monolinguals. Some children like to talk a lot; others have little to say. Some are very much concerned with correctness and appropriateness of speech; others are more concerned with communicating ideas. It is reasonable to expect bilingual children to show an even wider range of individual difference in language development, since they are subject to all of the same variables as monolingual children plus the wide range of variables related to bilingualism.

This study addresses itself to the young child whose early bilingualism is characterized by what seems to be a random mixture of languages. I feel that we should hesitate to make broad generalizations about what bilingual children do in the process of language acquisition. The variety of patterns that they follow and the lack of empirical data available are justifications for this hesitation. It is possible, however, to examine the speech of individual children for insights into early bilingualism and it is in this spirit that this study

was undertaken. Having found a child who seems to have no constraints on language mixing and/or code switching, we can ask if this mixing is truly random and indiscriminate, thus being an indication of a hybrid, single language system -- i.e., monolingualism. We may, on the other hand, find evidence that the child is in fact discriminating between two languages and using them differentially, showing knowledge of two separate grammars as well as two separate lexical systems and demonstrating that he is indeed bilingual.

The child

Carlos is a young boy whose mother says that he is bilingual but mixes his languages a lot. Casual review of taped and video-taped interviews with Carlos gives the impression that he is using Spanish and English indiscriminately, no matter what the language of his listener. I first met him at a bilingual pre-school held at the community college where his mother was studying English as a Second Language. His father is an immigrant from Mexico, although he speaks fluent English, having attended junior high school and high school in the United States. His mother is a recent Mexican immigrant who is learning English as fast as she can. Carlos was born in Mexico but his family immigrated before he was 1½ years old. There is a brother who is about two years younger. At school, Carlos is quiet and seldom speaks. The teacher

does not realize that he is bilingual or that he talks at all. At home, the two boys play with each other or with their parents. They do not live in a neighborhood where they can go outside and play with other children. Carlos' immediate language community is restricted to his parents and brother at home, his extended family, including a monolingual English speaking uncle who is a doctor, and his school, which is a loosely structured environment with either language being used at any time. The language of communication between parents is Spanish. The father is said to use English with the boys when he is at home, but he also addresses them in Spanish. The mother uses mostly Spanish, but as she learns English, she uses that language with them, also. They also watch television in English.

Data gathering

Carlos was videotaped at the age of 2 years 11 months in a two hour spontaneous play session. During this time he played with two people -- his mother, who served as his Spanish-speaking interlocutor (although she tended to switch codes occassionally), and Lorna, a speech therapist who specialized in play therapy. Lorna attempted to appear monolingual English speaking, but subsequent review of the videotape revealed that she indicated in subtle ways her ability to understand Spanish.

Data analysis

The tapes were transcribed and the utterances by the child were counted to determine the number of utterances in each language and in each language situation. The transcribed data were then subjected to the following analyses: Mean Length Utterance (MLU), conversational analysis, and syntactic analysis.

MLU was counted in English according to the criteria set forth by Brown[4]. MLU count in Spanish included the criteria listed in Table 1.

TABLE 1

Criteria Used for Counting MLU in Spanish

1) Count the third person singular form of the verb as the base form. Any further inflection for person, number, or tense adds to the number of morphemes.

2) Count diminutive inflections as separate morphemes only if the child shows evidence of the productive use of the morpheme.

3) With combinations of article + noun, add one morpheme count for number agreement if the noun is plural, and add one morpheme count for gender agreement.

Mixed utterances were also counted. An utterance was counted as mixed if it included at least one lexical item from each language or if the syntactic system of one language was

clearly being imposed on lexical items from the other.

For the conversational analysis, the data were divided into conversational sequences, either dialogs or monologs, and the sequences were examined for appropriate or inappropriate language, depending on the language of the interlocutor. Sequences in which there were mixed utterances were listed with the inappropriate language sequences. These were all then analyzed as to function, i.e., communicative vs. egocentric speech,and topic, the topics of home and motor vehicles being the two singled out for closer investigation. Language preference for each function and domain was studied. Those sequences which were ambiguous were omitted in the count.

Finally, the utterances were examined for grammaticality. The child's sentences were compared with an ideal adult norm and the difference was expressed in terms of the number of morphemes difference and the percentage of difference. The The child's verb system in each language was examined and compared with data from monolingual children at similar stages of development. Finally, word order in each language was compared to determine if Carlos was attempting to impose the same word order patterns on both languages.

Results

Analysis of all of the data clearly indicate that Carlos' speech was neither an indiscriminate nor a random mixture.

Table 2 compares the language used with each interlocutor with the language expected -- the language expected being that of the interlocutor.

TABLE 2

Carlos' Language Use in Each Language Situation and Overall

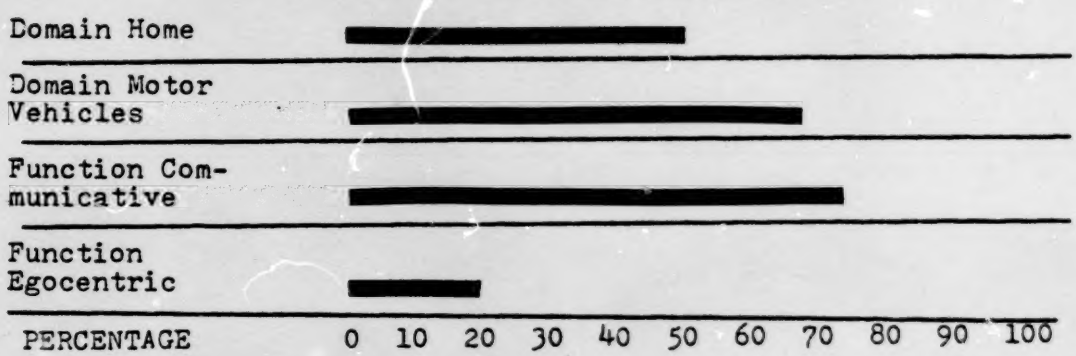
	Interlocutor English		Interlocutor Spanish		Overall	
Total Utterances	360		313		693	
	Utterances	%	Utterances	%	Utterances	%
English Language Used	249	69%	44	14%	293	44%
Spanish Language Used	85	24%	242	77%	327	48%
Mixed Utterances	26	7%	27	9%	53	8%

Of the 360 utterances counted when English was the language of the interlocutor, only 24% were in Spanish, the inappropriate language. When Spanish was the appropriate language, only 14% of the utterances were in English. In other words, with his mother, in spite of the fact that she switched codes a great deal, he clearly preferred to use Spanish. With Lorna, in spite of the fact that she exhibited some comprehension of Spanish, he used English most of the time.

The conversational analysis deals with sequences of utterances. All of these data are taken from his conversation with the English speaking interlocutor because it is uncertain how much his mother's code switching influenced code switching by Carlos. The question asked was how much of his speech was in English only -- according to topic and function -- and how much of it involved some language switch, either the use of mixed utterances or a complete switch to Spanish. The domain of home was considered the topic when Carlos was playing with a dollhouse and dolls representing a mother, a father, a baby, and a little boy. When he was playing with the toy cars and trucks, a different domain was assumed. Egocentric speech was to himself; communicative speech was to the adult. Table 3 shows the results of the analysis.

TABLE 3

Percent of English Only in Sequences
with English Interlocutor
According to Topic and Function



Here we have further evidence against indiscriminate mixing of languages. As in the case of many adult bilinguals, Carlos has a language preference for certain topics. When talking to himself, he prefers Spanish or some mixture of Spanish and English. In spite of these preferences, he is able to communicate in the appropriate language when necessary. His language use is not controlled by the simple presence or absence of the adult speaker of English, but is rather more sensitive to adjustments according to topic and whether there is interaction with the interlocutor.

We turn next to Carlos' competence in each language. How much does he know? There are several ways of looking at this. One way is by comparing his MLU in each language. Another is to compare the amount that his sentences in each language deviate from the adult norm. In this case MLU is not offered as an absolute measure of ability, but only as an indication that should be used with other measures to form an overall picture of his linguistic competence.

Carlos' MLU in each language is shown in Table 4. Mixed utterances by their very nature must contain at least two morphemes, therefore, the MLU count for mixed utterances can be expected to be higher than the others. The upper bound is the longest utterance in each language. Leaving out the mixed utterances, it can be seen that his relative ability in terms

of MLU is close to the same in each language, with a slight advantage in Spanish.

TABLE 4

Carlos' MLU in Each Language

	MLU	Upper Bound
English	3.09	8
Spanish	3.29	8
Mixed	3.72	9
Overall	3.25	-

When we look at the sentences which Carlos uses, however, There is a clear difference between his Spanish and his English in terms of the deviation from the adult norm. Samples of sentences are found in Table 5.

TABLE 5

A Sample of Three- and Four-morpheme Utterances by Carlos

English Sentences

1.	The green one	6.	*Falling down
2.	*It go up	7.	*It crying
3.	*Have it on	8.	No more Donald Duck
4.	In the house	9.	*Playing baseball
5.	*That baby hungry	10.	See Snoopy inside

* - some deviation from the adult norm

TABLE 5, continued

11.	*Doors all locked	16.	*That for the firetruck
12.	*She like a bird	17.	There are turtles
13.	That's baby's	18.	*Jumping like kangaroo
14.	It's a Minnie Mouse	19.	Where's my Snoopy
15.	And I see Popeye	20.	*Him going here

	Spanish Sentences	Gloss
1.	*Mi cámara aquí	My camera here
2.	Se cayó	He fell down
3.	Aquí es Bebi	Here is Baby
4.	*Chocó mesa	It hit table
5.	Quiere comer	He wants to eat
6.	Tiene hambre Mickey Mouse	Mickey is hungry
7.	No tiene cabeza	It doesn't have a head
8.	Lo mató	He killed it
9.	Está dormido Snoopy	Snoopy is asleep
10.	Se cae Carlos	Carlos will fall
11.	*Se metó aquí	It got put here
12.	Esto es un cinto	This is a belt
13.	Es para Bebi ella	It is for the baby
14.	Quiere comer Mickey Mouse	Mickey Mouse wants to eat
15.	Quiere agarrar ella	She wants to catch
16.	Es para ir aquí	It's to go here
17.	Eso es para sopita	That is for soup
18.	Este sí le queda	This <u>does</u> fit
19.	No tiene boca tambien	He doesn't have a mouth, too
20.	Ella tiene un cinto	She has a belt

* - some deviation from the adult norm

The starred sentences all show some deviation from the norm. Simply by looking at the number of starred sentences we see that he speaks less correctly in English than in Spanish. His Spanish sentences tend to be more often complete sentences according to the adult norm. This is shown in Table 6.

TABLE 6

Deviation from the Adult Norm:
Carlos' Three-plus Morpheme Utterances

	Spanish	English
Carlos' Number of Morphemes	305	237
Equivalent Adult Morphemes	325	287
Morpheme Deviation	20	50
% of Deviation	7%	21%

Here we see that his deviation from adult sentences is only 7% in Spanish, compated to 21% in English. This indicates a greater differentiation of ability than that shown by the MLU in the two languages.

The development of the verb phrase in monolingual English-speaking children has been thoroughly studied. Brown[5] has summarized the development of the use of be both as copula and auxiliary. He found that be is an early morpheme, appearing first at Stage II of language development. It is the last, however, to be used consistently in obligatory contexts. Looking at Carlos' sentences where be is required, we find it present in only 37% of the obligatory contexts. Further analysis of Carlos' sentences and comparison with sentences formed by monolingual children learning English shows that his deviations are just those kinds of deviations found in monolingual children with an equivalent MLU, especially in terms of deviation in the verb phrase including the presence or absence of be.

In other words, Carlos' English is consistent with that of monolingual English-speaking children at his level of development.

Gonzalez[6] has studied the development of the verb in Spanish-speaking children according to age. Comparing Carlos to Gonzalez's children, we find that his children at age 3;0 had established just those tenses and constructions which we find in Carlos at age 2;11. These are shown in Table 7.

TABLE 7

Sample of Spanish Verb Forms in Carlos' Speech

Imperative	Infinitive	Present	-ndo	Preterite	Subjunctive	Imperfect	Catenative
		viene					
		vienen					
		quiere					quiere
		quiero					
	ir	van/va		fue			va a
come	comer	come	comiendo	comió	comas		
mira		mira	mirando				
		cae		cayó	caiga		
dame						daba	

36 different verbs used; 59 different verbal forms

Using the data from Gonzalez's Spanish-speaking children, we can see that Carlos' development in Spanish is similar to that of monolingual children.

Compared to monolingual speakers in both languages, it seems safe to say that Carlos shows no evidence of either

retardation or precocity. His pattern of development very closely resembles that of monolinguals in each language, at least in regards to his competence with verbs.

Spanish and English differ as to word order in that English uses consistently a Subject-Verb-Object order for declarative sentences, but Spanish may delete the subject entirely or move it to other positions in the sentence. A large number of Spanish declarative sentences have a verb first surface order, whereas such a surface order is generally ungrammatical in English. Looking at word order in Carlos' speech, we find that his sentences in Spanish tend to be verb initial sentences and those in English tend to be subject initial. See Table 8.

TABLE 8

Word Order According to Percent of Sentences in Each Language

	Spanish	English
Subject first sentences	24%	79%
Verb first sentences	76%	21%

We see that in 21% of his English sentences either the verb is placed before the subject or the subject is omitted entirely. We may want to consider this as an example of the imposition of Spanish word order on his English. The problem is that English-speaking children with a MLU of 3.09 also use

sentences in which the subject is omitted or placed elsewhere in the sentence. I feel that the evidence shows that Carlos is clearly using Spanish word order for Spanish sentences and English word order for English sentences.

If we consider language acquisition in terms of processing strategies and heuristics, it becomes clear that English and Spanish require different processing procedures. In English the ends of the words carry little semantic weight. Word order is all important for determining relations between nouns and verbs. In Spanish, however, the word order may vary, but the ends of words -- the verb morphology -- carry the semantic information necessary for processing the relations between nouns and verbs. It is necessary, therefore, for the Spanish/English bilingual child, from the very beginning of his language comprehension, to refer to one set of strategies for the processing of English and a different set for the processing of Spanish. Carlos' grammatical development indicates that he has done just that. He has a well developed verb morphology in Spanish, consistent with children his age, and a poorly developed verbal auxiliary system in English, also consistent with children his age. His word order in English is consistent with English word order and his word order in Spanish reflects the patterns in that language. He is learning Spanish as Spanish and English as English.

Conclusion

It has been shown that, although Carlos uses mixed utterances and uses sentences from one language inappropriately while speaking the other, he is able to adjust his speech to the language of his listener and is developing two separate grammars rather than one. His speech in English is interspersed with Spanish words and sentences, but that use of Spanish is neither random nor indiscriminate. His syntax in each language is comparable to that of monolinguals learning their first language. The fact that Carlos uses a mixed code does not indicate either that he does not know one language from the other or that he is developing a hybrid system. Even more, in the unequal development of his verb system in the two languages, we have found evidence that this process of discrimination between the two systems is probably one which began when he first started decoding utterances in the two languages, because different processing strategies were required for the two. Carlos uses a mixed code, but it is not because he is linguistically deficient.

The use of a mixed code is common among bilingual children. Evidence from Carlos shows that we cannot say that children who use such a code are necessarily language deficient. Let us speculate as to what differentiates Carlos from the child who strictly separates according to listener.

Carlos comes from a home in which both languages are used interchangeably. In his environment there are few situations where one or the other language is the rule. He does not play actively with his peers. In his small world, there are few social constraints on the appropriate use of language. Both are used interchangeably and by the same people. Carlos' lack is not one of linguistic competence. The difference between Carlos and the child who strictly separates is one of socio-linguistic competence. It is a problem of rules for the use of language rather than a problem of language development.

Is Carlos bilingual? Of course he is. His is one of several normal patterns of bilingual development. He is acquiring the languages of his enviornment and the rules for the use of language in his enviornment as he perceives them.

Footnotes and References

A more complete discussion of Carlos and more data can be found in "Problems in the Developmental Psycholinguistics of Bilingualism: Language Acquisition and Language Use" an unpublished doctoral dissertation from the University of California, San Diego by Coral R. Bergman.

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